DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-001788
Date Inspected: 17-Mar-2008

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 600
OSM Departure Time: 1730
Location: Shanghai China

CWI Name:	Chen Xi , Sun Wei	**CWI Present:**	☑ Yes ☐ No
Inspected CWI report:	☑ Yes ☐ No ☐ N/A	**Rod Oven in Use:**	☐ Yes ☐ No ☑ N/A
Electrode to specification:	☑ Yes ☐ No ☐ N/A	**Weld Procedures Followed:**	☑ Yes ☐ No ☐ N/A
Qualified Welders:	☑ Yes ☐ No ☐ N/A	**Verified Joint Fit-up:**	☑ Yes ☐ No ☐ N/A
Approved Drawings:	☑ Yes ☐ No ☐ N/A	**Approved WPS:**	☑ Yes ☐ No ☐ N/A
		Delayed / Cancelled:	☐ Yes ☑ No ☐ N/A

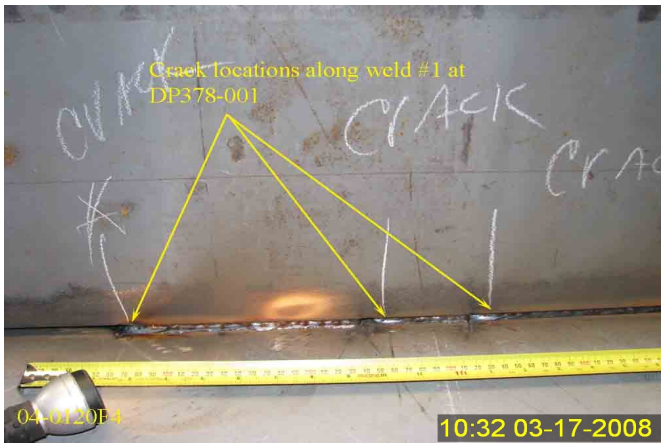
Bridge No: 34-0006
Component: OBG

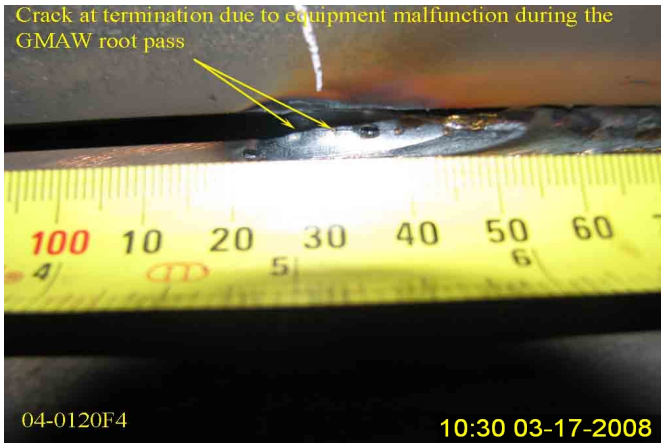
Summary of Items Observed:

DP378-001 and DP351-001 Production panels

This Quality Assurance (QA) inspector arrived at ZPMC for observation of the SAS super structure fabrication. This QA inspector observed ZPMC weld a Production Monitoring Test (PMT) for deck plate DP378-001 and DP351-001. DP378-001 was welded first using the Gas Metal Arc Welding (GMAW) process for the root pass. ZPMC elected to proceed with the root pass on deck panel DP351-001 which is outside the agreed upon welding procedure and in direct violation of ABF's stop work letter submitted to ZPMC. This QA inspector observed ZPMC welding personnel using gantry # 1 for the welding process and recorded the amperages, voltage and travel speed of each of the 6 welding heads used for production and PMT welding. The Average amps and volts for DP378-001 were; GMAW 363.8 amps, 30.44 volts and a travel speed of 534 mm/min and for SAW 677.5 amps, 24.9 volts and a travel speed of 505 mm/min. For DP351-001 the average welding parameters were; GMAW 359.4 amps, 30.64 volts and travel speed of 521 mm/min. For SAW 680 amps, 24.87 volts and travel speed of 515 mm/min. The Ambient temperature in the shop was recorded at 13ºc with the steel temperature at 15ºc also. During the welding of the GMAW root pass it was noted by this QA inspector that welding head number 1 had a malfunction with the wire feeder which caused the welding process to be stopped only on head one. Upon a review of the area it was noted at the weld terminations there were 3 cracks within the root pass. After speaking Chen Xi the QC/CWI he relayed that ZPMC would grind the cracks out and evaluate them Magnetic Particle (MT) inspection to insure weld soundness and complete removal of the cracks. ZPMC did grind and MT the areas and relayed that there were no rejectable indications noted. ZPMC did resume the welding process with GMAW prior to the SAW process. Deck panel DP378-001 was welded in two groups; group A included Rib numbers U9, U16 and U14. Group B was rib numbers U25 and U70. Deck panel DP351-001 was welded in two groups; group A included Rib numbers U8, U6 and U23. Group B was rib numbers U24 and U7. Once the PMT's welding was

completed that included the SAW process ZPMC's QC/CWI Chen Xi performed a visual inspection and marked the required 500mm area to be utilized as the inspection criteria area once ZPMC completed their visual inspection this QA inspector performed his QA verification and found the weldments to be within the inspection criteria for the PMT. The Ultrasonic Testing and macros shall be performed later this date by ZPMC and Caltrans METS. It was noted that ZPMC had 1-CWI and 2- QC inspectors in bay 1 this date and ABF had 3 QC representatives present this day for bay 1. By the end of this QA inspectors shift ZPMC had not completed the SAW welding for DP378-001 which had 3 ribs (6 welds) left to complete and was continuing into the next shift for completion of the welding process.





Summary of Conversations:

As noted in the contents above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Pat Lowry,(858) 344-2712, who represents the Office of Structural Materials for your project.

Inspected By:	Riley,Ken	Quality Assurance Inspector
Reviewed By:	Hager,Craig	QA Reviewer